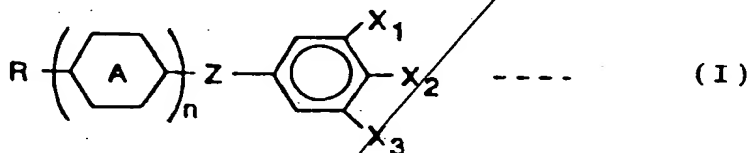


WHAT IS CLAIMED IS:

- SUB A1 1. A liquid crystal composite material for use in a liquid crystal layer of a liquid crystal display device having a pair of substrates with the liquid crystal layer interposed therebetween, and an electrode structure for generating an electric field having a component predominantly in parallel with one of said pair of substrates;

wherein said liquid crystal composite material includes a liquid chemical compound represented by a general chemical formula (I)



wherein in the formula (I),  $\text{X}_1$ ,  $\text{X}_2$  and  $\text{X}_3$  are selected from a group consisting of fluoro group, cyano group, trifluoromethyl group, trifluoromethoxyl group, nitro group and hydrogen atom, not all three  $\text{X}_1$ ,  $\text{X}_2$  and  $\text{X}_3$  being a hydrogen group; R is selected from a group consisting of alkyl group and alkoxy group having the carbon number 1 to 10 which can be substituted; Ring A is selected from a group consisting of cyclohexane ring, benzene ring, dioxane ring, pyrimidine ring, and [2, 2, 2]-bicyclohexane ring, Z is selected from a group consisting of single bonding, ester bonding, ether bonding, methylene, and ethylene; and n is 1 or 2.

- SUB D1 2. A liquid crystal composition material according to

claim 1, wherein X<sub>2</sub> is ~~a~~ cyano group.

*SUB 2* 3. A liquid crystal composite material according to claim 1, wherein a relation between an elasticity constant K<sub>2</sub> and a dielectric anisotropy Δε of said liquid crystal composite material satisfies the relation

5 K<sub>2</sub>/Δε < 9 × 10<sup>-8</sup> [dyn].

*SUB 2* 4. A liquid crystal composite material for use in a liquid crystal layer of a liquid crystal display device having a pair of substrates with the liquid crystal layer interposed therebetween, and an electrode structure for generating an electric field having a component predominantly in parallel with one of said pair of said substrates;

wherein said liquid composite material has a resistivity which is no greater than 1 × 10<sup>13</sup> Ω<sup>.cm</sup> and not less than 1 × 10<sup>9</sup> Ω<sup>.cm</sup>.

→ 5. A liquid crystal composite material according to claim 4, wherein a relation between an elasticity constant K<sub>2</sub> and a dielectric anisotropy Δε of said liquid composite material satisfies the relation K<sub>2</sub>/Δε < 9 × 10<sup>-8</sup> [dyn].

*add  
A3  
F2*